

# Mi-TIC E L™



## INTRODUCTION

The Mi-TIC E L is part of the argus range of thermal imaging cameras and is the most affordable high resolution large screen thermal imager for firefighting applications. The camera provides a crystal clear image with a dynamic range up to 760°C (1400°F) and at the same time can see very low temperature objects, which is ideal for casualty searches.

The Mi-TIC E L is available with a unique dual use desktop/in-truck charger station which securely retains and charges both the thermal imager and a spare battery. Multiple charger stations can be daisy-chained together up to a maximum of 6 units.

## PERSONAL

Weighing approximately 870g (1.9lb), the Mi-TIC E L is a small footprint thermal imager that can be easily and comfortably held in the palm of your hand. Unlike many thermal imagers, the Mi-TIC E L design allows it to be worn in multiple ways – in the hand, inside a pocket, clipped outside a pocket, clipped to a lanyard or hung around the neck.

## SIMPLE

With a thumb operated green “on/off” button and superb start-up time of 5 seconds, the Mi-TIC E L is simple to use.

## SAFE

The Mi-TIC E L has Class I, Division 2 and Class II, Division 2 Non-Incendive certifications. The use of Lithium Iron Phosphate technology ensures the Mi-TIC E L delivers up to 4 hours of battery life over 2,000 plus charge cycles. The Mi-TIC rechargeable batteries are inherently safe due to the use of patented nanophosphate® technology.



## CAMERA STANDARD FEATURES

The Mi-TIC E L comes with the most advanced features available in any Thermal Imaging Camera. These include:

3.5" (90mm) LCD Display	X2 and X4 Digital Zoom*
Direct Temperature Measurement (DTM)*	Image Capture (1000 images)*
Tri-Mode Sensitivity	Video Capture (up to 16 hours)*
Customizable Start-Up Screen	“Black Box” Video Recording (up to 16 hours)
Firefighting Application Modes <ul style="list-style-type: none"> <li>• Fire</li> <li>• Fire Plus*</li> <li>• Overhaul*</li> <li>• Size-Up*</li> </ul>	Image Freeze*
Search and Rescue Application Modes <ul style="list-style-type: none"> <li>• White Hot*</li> <li>• Missing Person*</li> </ul>	User Replaceable Germanium Window (Order code: ARG_MI_RWS)
	No PC Software required for image and video download – when the camera is docked, it is recognized as a removable device (like a USB memory stick)

\* 3-button variants only

## CAMERA STANDARD ACCESSORIES

The Mi-TIC E L comes with the following accessories as standard:

Two argus® Mi-TIC Lithium Iron Phosphate Battery Packs (Order code: ARG_MI_BLY)	Charger Station Mounting Bracket (Order code: ARG_MI_MB)
Desktop/Vehicle Charger Station (Order code: ARG_MI_CS)	USB Connection Lead for connecting dock to PC / Laptop (Order code: ARG_MI_USB)
Charger Power Supply with US, UK, Europe, Aus and South America Plugs (Order code: ARG_MI_PSU)	Pocket Clip (Order code: ARG_MI_PCLIP_S)
Retractable Lanyard (Order code: ARG_MI_RL)	Quick Start Guide

## CAMERA OPTIONAL ACCESSORIES

"AA" Battery Pack (non-NFPA) (Order code: ARG_MI_YAA)	argus® Soft Carry Case (Order code: (P7030SC)
argus® Mi-TIC Black Hard Case (Order code: ARG_MI_BHC)	argus® Neck Strap (Order code: (P7030NS)



## CAMERA ORDER CODES

Code	Kitting	Resolution	Buttons	Frame Rate
MI-TIC-EL-1	FULL KIT	320x240	1	30Hz
MI-TIC-EL-3	FULL KIT	320x240	3	30Hz
MI-TIC-EL-1_CAM	Camera only	320x240	1	30Hz
MI-TIC-EL-3_CAM	Camera only	320x240	3	30Hz

## WARRANTY

3-Year Camera Warranty  
5-Year Battery Warranty  
10-Year Focusing Lens and Sensor Warranty

## ENVIRONMENTAL DATA

<b>Thermal conditions</b>	The camera has been designed to operate: <ul style="list-style-type: none"> <li>• continuously between -20°C (-4°F) and +85°C (185°F) or</li> <li>• at 150°C (300°F) for 15 minutes</li> <li>• at 260°C (500°F) for 5 minutes</li> </ul>
<b>Sealing</b>	IP67; will withstand immersion in water
<b>Impact</b>	The camera will withstand a drop from a height of 2m (6.5ft) onto concrete
<b>Storage</b>	It is recommended that, for maximum effective operational life, the storage temperature is kept between -20°C (-4°F) and +40°C (104°F)

## OPTICAL DATA

## DETECTOR

<b>Sensor type</b>	Un-cooled Microbolometer
<b>Sensor material</b>	Amorphous Silicon (ASi)
<b>Resolution</b>	384x288px
<b>Pixel size</b>	17µm
<b>Spectral response</b>	7.5 – 14µm
<b>MDTD (Full camera system sensitivity)</b>	50mK (0.05°C) typical (Minimum Discernible Temperature Difference)
<b>NETD (Sensor sensitivity)</b>	<50mK (<0.05°C)
<b>Dynamic range</b>	-40°C to 760°C (-40°F to 1400°F)
<b>Refresh rate</b>	60Hz
<b>Direct Temperature Measurement (DTM)</b>	-40°C to 760°C (-40°F to 1400°F)

## LENS

<b>Lens material</b>	Germanium Composite
<b>Focal length</b>	1m to infinity, optimized at 4m (3ft to infinity, optimized at 13ft)
<b>Aperture</b>	f/1.0
<b>Field of view</b>	50° horizontal, 37.5° vertical, 62° diagonal

## DISPLAY

<b>Type</b>	High-grade, industrial, color TFT active matrix LCD
<b>Size</b>	90mm (3.5")
<b>Pixel format</b>	QVGA 320x240 (each pixel RGB format; total 230,400 pixels)
<b>Video input</b>	Sensor synchronized direct digital drive
<b>Backlight</b>	350 cd/m <sup>2</sup>

## MECHANICAL DATA

<b>Camera dims (H x W x D)</b>	216mm x 110mm x 82mm with battery (8.5" x 4.3" x 3.2")
<b>Camera weight</b>	695g (1.5lb) without battery 870g (1.9lb) with battery
<b>Battery dims (H x W x D)</b>	87mm x 76mm x 28mm (3.4" x 3.0" x 1.1")
<b>Battery weight</b>	175g (6oz)
<b>Charger dims (H x W x D)</b>	167mm x 112mm x 120mm (6.5" x 4.4" x 4.7")
<b>Charger weight</b>	600g (1.3lb)
<b>Main camera body</b>	Radel® R-5100 and Santoprene®
<b>LCD window</b>	Ultrason® E 2010 HC
<b>LCD bumper</b>	Santoprene®
<b>Ge Window collar</b>	Radel® R-5100 and Santoprene®
<b>Lens window</b>	Germanium (2mm thick) with durable coating

## ELECTRICAL DATA

<b>Power consumption</b>	<3 W typical
<b>Start-up time</b>	5 seconds typical
<b>Battery type</b>	Lithium Iron Phosphate Rechargeable Battery
<b>Battery capacity</b>	1800mAh, 6.4V
<b>Battery life</b>	Up to 4 hours @ ambient temperature (22°C / 72°F)
<b>Battery charge time</b>	Less than 4 hours
<b>Battery recharge cycles</b>	Over 2000 cycles
<b>Battery charging temp.</b>	5°C to 40°C (41°F to 104°F)
<b>Charger input voltage</b>	11V – 30V DC (12V and 24V vehicle systems)
<b>Charger mains adapter</b>	100V – 240V (50Hz - 60Hz)
<b>Charger operating temp.</b>	0°C to 40°C (32°F to 104°F)

## COMPLIANCE DATA

<b>Performance</b>	NFPA 1801:2021 Standard on Thermal Imagers for the Fire Service
<b>Safety</b>	IEC 62368-1:2014 and related national standards UL 121201 9th Ed. / CSA C22.2 No. 213:2017 Class I, Div 2, Groups C, D T4; Class II, Div 2, Groups F, G T4 CAN/CSA C22.2 No. 61010-1-12 UL 61010-1 3rd Ed.
<b>Battery</b>	IEC 62133-2:2017 UN/DOT 38.3
<b>Emissions RFI/EMC</b>	EN 55032:2015, Class A EN 54098:2010 FCC CFR 47 subpart 15b, ICES 003:2017 AUS/NZ 4251.1
<b>Immunity</b>	EN 55103-2:2009
<b>RoHS</b>	All parts of the system are compliant with EU directive 2011/65/EC
<b>Rollover</b>	Meets requirements of NFPA 1901:2016 Standard for Automotive Fire Apparatus

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